

WM60S

Ball Screw Drive, Ball Guide, Single Ball Nut, Short Carriage

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General Specifications

Parameter	WM60S
Profile size (w × h) [mm]	60 × 60
Type of screw	ball screw with single nut
Carriage sealing system	self-adjusting plastic cover band
Screw supports	included in all units that require screw supports
Lubrication	central lubrication of all parts that require lubrication
Included accessories	4 × mounting clamps

Performance Specifications

Parameter		WM60S
Stroke length (S max), maximum	[mm]	5000
Linear speed, maximum	[m/s]	2,5
Acceleration, maximum	[m/s ²]	10
Repeatability	[± mm]	0,02
Input speed, maximum	[rpm]	3000
Operation temperature limits	[°C]	0 – 80
Dynamic load (F _x), maximum	[N]	2800
Dynamic load (F _y), maximum	[N]	1400 ¹ / 25920 ²
Dynamic load (F _z), maximum	[N]	1400 ¹ / 23860 ²
Dynamic load torque (M _x), maximum	[Nm]	50 ¹ / 410 ²
Dynamic load torque (M _y), maximum	[Nm]	100 ¹ / 320 ²
Dynamic load torque (M _z), maximum	[Nm]	100 ¹ / 320 ²
Drive shaft force (F _{rd}), maximum	[N]	500
Drive shaft torque (M _{ta}), maximum	[Nm]	35
Ball screw diameter (d ₀)	[mm]	20
Ball screw lead (p)	[mm]	5, 20, 50
Weight	[kg]	
of unit with zero stroke		3,80
of every 100 mm of stroke		0,65
of each carriage		1,00

¹ Value for the complete unit

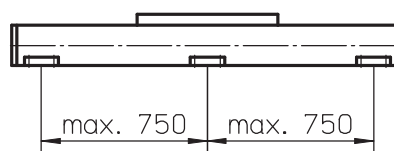
² Value for the ball guide only

Carriage Idle Torque (M_{idle}) [Nm]

Input speed [rpm]	Screw lead [mm]		
	p = 5	p = 20	p = 50
150	0,7	1,0	1,4
1500	1,1	1,6	2,0
3000	1,5	1,8	2,2

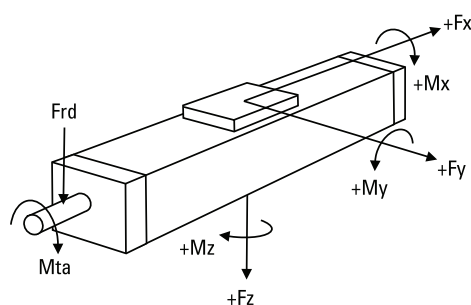
M_{idle} = the input torque needed to move the carriage with no load on it.

Deflection of the Profile



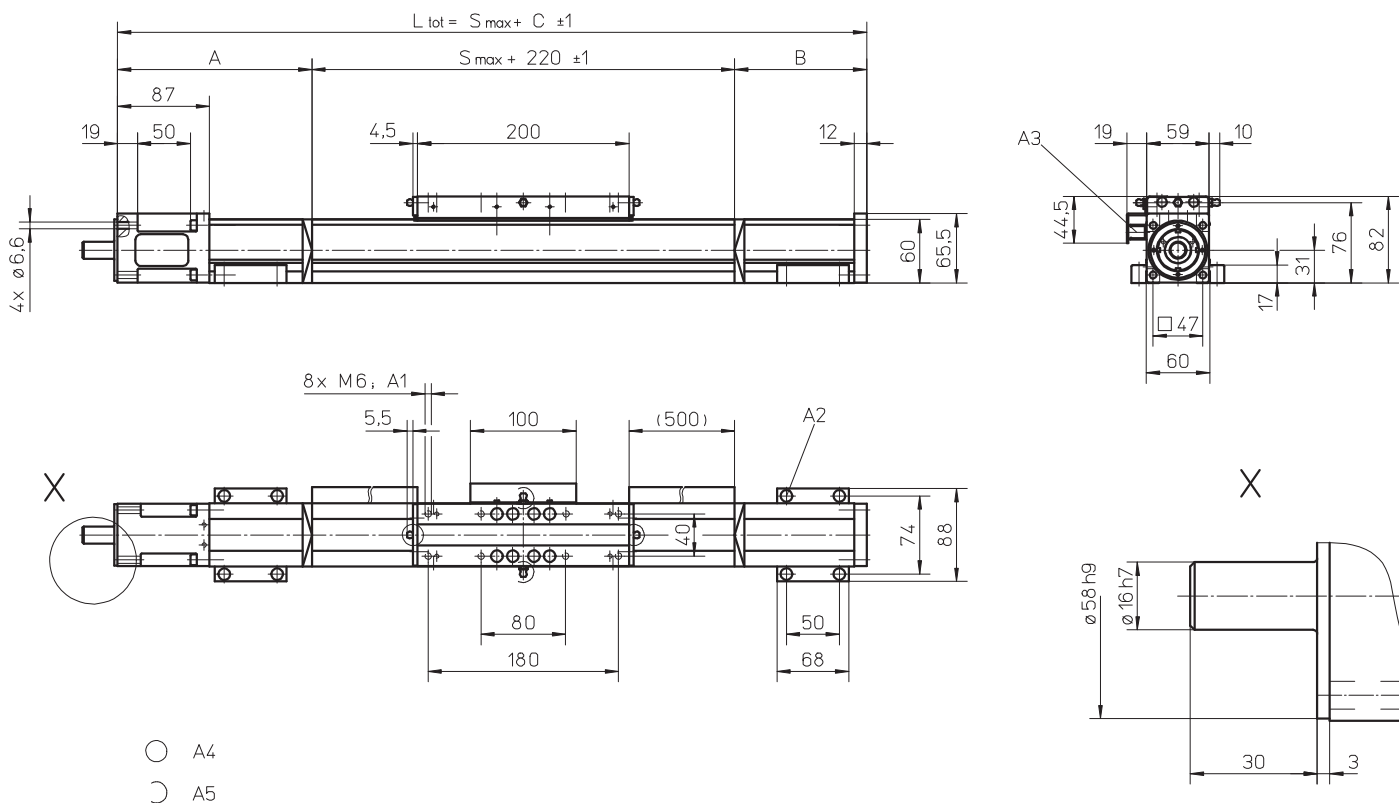
A mounting clamp must be installed at least at every 750 mm to be able to operate the maximum load. Less clamps may be required if less load is being operated, see the additional technical data for more information.

Definition of Forces



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A1: depth 11
 A2: socket cap screw ISO4762-M6×20 8.8
 A3: ENF inductive sensor rail option kit (optional)

A4: tapered lubricating nipple to DIN71412 AM6 on fixed-bearing side as standard feature
 A5: can be changed over to one of the three alternative lubricating points by the customer

Stroke length (S max) [mm]	A [mm]	B [mm]	C [mm]
0 - 580	95	20	335
581 - 1140	110	60	390
1141 - 1805	130	80	430
1806 - 2460	155	105	480

Stroke length (S max) [mm]	A [mm]	B [mm]	C [mm]
2461 - 3125	175	125	520
3126 - 3780	200	150	570
3781 - 4445	220	170	610
4446 - 5000	240	190	650

Double Short Carriages

Parameter	WM60S
Minimum distance between carriages (L _A) [mm]	255
Dynamic load (F _y), maximum [N]	2800
Dynamic load (F _z), maximum [N]	2800
Dynamic load torque (M _y), maximum [Nm]	L _A ¹ × 1,4
Dynamic load torque (M _z), maximum [Nm]	L _A ¹ × 1,4
Force required to move second carriage [N]	180
Total length (L _{tot}) [mm]	S max + C + L _A

¹ Value in mm

